WHAT IS CLAIMED:

1. An isolated DNA molecule from a *Bacillus* species encoding a PolC subunit of a DNA polymerase III-type enzyme, the isolated DNA molecule either:

(i) comprising a nucleotide sequence of SEQ ID NO: 183;

(ii) encoding an amino acid sequence of SEQ ID NO: 184; or

(iii) hybridizing to the complement of SEQ ID NO: 183 under hybridization conditions comprising at most about 0.9M sodium citrate buffer at a temperature of at least about 37°C.

2. The isolated DNA molecule according to claim 1, wherein the *Bacillus* species is *Bacillus stearothermophilus*.

3. The isolated DNA molecule according to claim 1, wherein the DNA molecule encodes an amino acid sequence of SEQ ID NO: 184.

4. The isolated DNA molecule according to claim 1, wherein the DNA molecule comprises a nucleotide sequence of SEQ ID NO: 183.

5. The isolated DNA molecule according to claim 1, wherein the DNA molecule hybridizes to the complement of SEQ ID NO: 183 under hybridization conditions comprising at most about 0.9M sodium citrate buffer at a temperature of at least about 37°C.

6. An expression system comprising an expression vector into which is inserted a heterologous DNA molecule according to claim 1.

7. A host cell comprising a heterologous DNA molecule according to claim 1.

8. A method of producing a recombinant thermostable PolC subunit of a DNA polymerase III-type enzyme from a *Bacillus* species, said method comprising:

transforming a host cell with the heterologous DNA molecule according to claim 1 under conditions suitable for expression of the PolC subunit, and

isolating the PolC subunit.

9. An isolated DNA molecule from *Bacillus stearothermophilus* encoding a PolC subunit of a DNA polymerase III enzyme, wherein the PolC subunit can cooperate with a clamp loader to form a DNA polymerase III-like particle.